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Inter (Part-II)-A-2022

Roll No. _____ (To be filled in by candidate)

(For all sessions)

Paper Code	8	4	6	7
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Biology (Objective Type)

Time: 20 Minutes

Marks: 17

NOTE: Write answers to the questions on the objective answer sheet provided. Four possible answers A,B,C and D to circle A,B,C or D given in front of each each question are given. Which answer you consider correct, fill the corresponding question with Marker or pen ink on the answer sheet provided.

- 1.1. The vernolic acid and ricinolic acid can be used as hardness in:

(A) paints	(B) plastics	(C) Paints and plastics	(D) Rubber
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2. Darwin's "Origin of species" was published in:

(A) 1840	(B) 1859	(C) 1865	(D) 1890
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3. Study of relationship of different communities to environment is called:

(A) Synecology	(B) Autecology	(C) Embryology	(D) Zoology
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4. Which one is not a desert?

(A) Thal	(B) Thar	(C) Sahara	(D) Taiga
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5. The steady internal state of homeostasis is known as:

(A) Disorder	(B) Disease	(C) Normal health	(D) Abnormal health
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6. Pressure filtration is associated with the:

(A) Glomerular Part	(B) Collecting tubule
(C) Distal convoluted tubule	(D) Collecting duct
7. The diameter of thick filament in muscle is:

(A) 7-8 nm	(B) 4 nm	(C) 16 nm	(D) 10 nm
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8. At the place of attachment of leaf with the shoot a swollen part is called:

(A) Pitch	(B) Pit	(C) Cortex	(D) Pulvinus
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9. Intelligence is under the control of:

(A) Cerebrum	(B) Cerebellum	(C) Thalamus	(D) Hypothalamus
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10. Diploid parthenogenesis may occur in:

(A) Bees	(B) Aphid	(C) Wasp	(D) Honey Bee
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11. The hypoblast is mainly presumptive:

(A) Endoderm	(B) Epiderm	(C) Mesoder	(D) Blastoderm
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12. It is one of the prominent structure in the chick embryo of 18 hours:

(A) Primitive streak	(B) Neurocoel
(C) Notochord	(D) Coelom
13. Initiation codes for every protein coding gene is AUG which encodes for:

(A) Leucine	(B) Serine	(C) Alanine	(D) Methionine
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14. The term Bivalent means:

(A) One chromosome	(B) Two chromosomes	(C) Two chromatids	(D) Four Chromosomes
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15. Mongolism is phenotypically:

(A) Male	(B) Female	(C) Male or Female	(D) None
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16. How many possible alleles of ABO blood group are present in an individual?

(A) 1	(B) 2	(C) 3	(D) 300
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17. Dopamine producing cells can be grafted in the brain in order to cure:

(A) Haemophilia	(B) Epilepsy	(C) Parkinson's disease	(D) Alzheimer's
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Roll No. _____ (to be filled in by the candidate)

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Biology (Essay Type)

Time: 2:40 Hours

Section - I

Rup-22

Marks: 60

2x8=16

2. Write short answers of any eight parts from the following.

- i. Why do marine fishes retain trimethylamine oxide in their body?
- ii. Give the significance of tubular secretion in filterate.
- iii. How do aldosterone and ADH help in concentration of urine?
- iv. Differentiate between heart wood and sap wood:
- v. What is Nutation?
- vi. Name the bones of pectoral girdle.
- vii. Give the role of foetus during the timing of delivery.
- viii. What is the cause and symptoms of Syphilis?
- ix. Differentiate between climate and weather:
- x. What is Taiga? Give conditions in Taiga.
- xi. Define soil. Give its composition.
- xii. What are the effects of global warming?

3. Write short answers of any eight parts from the following.

2x8=16

- i. Discuss the effect of age and emotions on epilepsy.
- ii. Why the Hypothalamus is a main Coordination center?
- iii. What type of behaviour is Kinesis?
- iv. What is Product Rule?
- v. Discuss Dominance relation. Give one example.
- vi. What is Rh-factor?
- vii. What is Gene Pharming?
- viii. What is cystic fibrosis?
- ix. Discuss importance of Tissue-culture.
- x. What are decomposers?
- xi. What is Food Chain?
- xii. What type of trophic level exists in Food Chain?

4. Write short answers of any six parts from the following.

2x6=12

- i. How increase in length of plant body occurs? Discuss it.
- ii. Can aging be slowed down in human? Comment on it.
- iii. Differentiate between Template and coding strands of DNA during transcription.
- iv. Give role of promoter in transcription.
- v. Why DNA replication cannot complete without DNA Helicase?
- vi. Distinguish Convergent Evolution from Divergent Evolution.
- vii. Differentiate between Endangered species and Extinct species. Give examples.
- viii. Differentiate between Karyokinesis and cytokinesis.
- ix. What is crossing over? Give its significance.

Section - II

NOTE: Answer any three questions from the following.

8x3=24

5. (a) How osmoregulation takes place in terrestrial environment? 4
(b) Write a note on synecology and autecology. 4
6. (a) Demonstrate the antagonistic working of hinge joint of elbow. 4
(b) Describe the process of transcription emphasizing initiation, elongation and termination steps. (Post transcriptional modifications are not required) 4
7. (a) Describe the mechanism of synaptic transmission. 4
(b) How acid rain is produced? What are the causes and effects of acid rain? 4
8. (a) Describe human menstrual cycle's primary steps. 4
(b) Write a note on Sex determination in plants 4
9. (a) Define regeneration with two examples. Discuss the mechanism of regeneration in planaria and salamander: 4
(b) Do the anatomical similarities between species bring any evidence in the support of evolution? If yes, explain. 4